

HIGH TEMPERATURE SUPERCONDUCTING RACETRACK COIL

ABSTRACT OF THE DISCLOSURE

[0033] A racetrack shaped high temperature superconducting (HTS) coil is fabricated by layer winding HTS tape under tension on a precision coil form with a binder such as pre-preg filament-ply interlayer insulation. The coil form includes a racetrack shaped bobbin, two side plates and a series of blocks that define the outside surface of the coil. The outside surface of the winding is over-wrapped with a copper foil bonded to heat exchanger tubing. The coil is baked in the coil form to cure the epoxy then released from the coil form. The resulting coil structure is a strong winding composite built to close tolerance dimensions.